1-33. (Cancelled)

34. (Previously Presented) A method for mass spectroscopic analysis of an analyte solution, comprising:

irradiating a liquid volume of said analyte solution, without additional matrix added to said analyte solution, with a light beam to desorb solution-specific ions into a surrounding gas to produce gas-phase ions;

transferring said gas-phase ions to a mass analyzer; and

mass-analyzing said gas-phase ions by said mass analyzer.

35. (Previously Presented) The method as in claim 34, wherein the step of irradiating with a light beam comprises:

irradiating with a laser beam.

36. (Previously Presented) The method as in claim 35, wherein the step of irradiating with a laser beam comprises:

pulsing with a laser beam.

37. (Previously Presented) The method as in claim 36, wherein the step of irradiating comprises:

producing said gas-phase ions at or about atmospheric pressures.

38. (Previously Presented) The method as in claim 34, wherein the step of transferring comprises:

transferring said gas-phase ions to an inlet port of a mass spectrometer equipped with an atmospheric pressure interface.

39. (Previously Presented) The method as in claim 34, further comprising:

depositing said analyte solution on a surface, prior to the step of irradiating.

40. (Previously Presented) The method as in claim 39, wherein the step of depositing comprises:

depositing a matrix-free analyte solution.

41. (Previously Presented) The method as in claim 38, wherein said step of depositing comprises:

depositing said analyte solution on at least one of metal surface, and a membrane.

42. (Previously Presented) The method as in claim 34, wherein said analyte solution is in an electrophoresis gel.

43. (Previously Presented) The method as in claim 39, wherein said step of depositing comprises:

depositing said analyte solution on a flat surface.

44. (Previously Presented) The method as in claim 39, wherein said step of depositing comprises:

depositing samples of multiple analyte solutions on an array.

45. (Previously Presented) The method as in claim 34, wherein said step of transferring comprises:

placing said analyte solution close to at least one of an inlet port of said mass analyzer and an inlet orifice attached to said inlet port.

46. (Previously Presented) The method as in claim 34, wherein said step of transferring comprises:

generating an electric field between said analyte solution and at least one of an inlet port of said mass analyzer and an inlet orifice attached to said inlet port to assist in transfer of said gas-phase ions into the mass analyzer.

47. (Previously Presented) The method as in claim 34, wherein said step of transferring comprises:

producing a gas flow to transfer said gas-phase ions toward at least one of an inlet port of said mass analyzer and an inlet orifice attached to said inlet port.

48. (Previously Presented) The method as in claim 34, wherein said step of mass-analyzing comprises:

analyzing liquid solutions of organic and inorganic compounds including peptides, proteins, nucleic acids, polymers and other compounds of biological significance.

49. (Previously Presented) The method as in claim 34, wherein said step of irradiating comprises:

irradiating said analyte solution at a wavelength which is absorbed by said analyte solution.

50. (Previously Presented) The method as in claim 39, further comprising:

providing a liquid flow of said analyte solution to said surface.

51. (Previously Presented) A system for the mass spectroscopic analysis of an analyte solution, comprising:

means for irradiating a liquid volume of said analyte solution, without additional matrix added to said analyte solution, to desorb solution-specific ions into a surrounding gas to produce gas-phase ions;

means for mass-analyzing said gas-phase ions; and

means for transferring said gas-phase ions into said means for mass-analyzing.

52. (Previously Presented) The system as in claim 51, further comprising:

means for depositing said analyte solution on a surface.

53. (Previously Presented) The system as in claim 52, wherein said means for depositing is configured to deposit a matrix-free analyte solution.

54. (Previously Presented) The system as in claim 52, wherein said surface comprises:

at least one of a metal surface and a membrane.

55. (Previously Presented) The system as in claim 52, wherein said surface comprises an electrophoresis gel.

56. (Previously Presented) The system as in claim 52, wherein said surface comprises an array of multiple analyte solutions.

57. (Previously Presented) The system as in claim 51, wherein said means for transferring comprises:

an electric field between said analyte solution and an inlet of said means for mass analyzing to assist in transfer of said gas-phase ions into the means for mass analyzing.

58. (Previously Presented) The system as in claim 51, wherein said means for irradiating a surface comprises:

means for irradiating at a wavelength which is absorbed by said analyte solution.

59. (Previously Presented) The system as in claim 51, wherein said means for irradiating comprises:

means for pulsing an infrared laser light.

60. (Previously Presented) The system as in claim 52, further comprising:

means for providing a liquid flow of said analyte solution to said surface.

61. (Previously Presented) The system as in claim 54, wherein said means for providing comprises:

means for moving said surface.

62. (Previously Presented) The system as in claim 54, wherein said means of providing comprises:

means for moving said surface relative to said means for mass analyzing.

63. (Previously Presented) The system as in claim 54, wherein said means for providing comprises:

means for providing a continuous flow of the analyte solution.

64. (Previously Presented) The system as in claim 51, wherein said means for transferring comprises:

an enclosure with a gas under defined pressure and temperature conditions.

65. (Previously Presented) An apparatus for the mass spectroscopic analysis of an analyte solution, comprising:

a light source configured to irradiate a liquid volume of said analyte solution, without additional matrix added to said analyte solution, to desorb solution-specific ions into a surrounding gas to produce gas-phase ions;

a mass analyzer configured to mass-analyze said gas-phase ions; and

means to transfer said gas-phase ions to said mass analyzer.

66. (Previously Presented) The apparatus as in claim 65, wherein the light source comprises a laser beam.

67. (Previously Presented) The apparatus as in claim 66, wherein the laser beam is configured to generate a pulsed laser beam.

68. (Previously Presented) The apparatus as in claim 65, wherein said gas-phase ions are produced at or about atmospheric pressures.

69. (Previously Presented) The apparatus as in claim 65, wherein the transfer mechanism includes an inlet port on a mass spectrometer equipped with an atmospheric pressure interface.

70. (Previously Presented) The apparatus as in claim 65, further comprising:

a substrate configured to receive said analyte solution.

71. (Previously Presented) The apparatus as in claim 70, wherein said surface comprises:

at least one of a metal surface and a membrane.

72. (Previously Presented) The apparatus as in claim 70, wherein said surface comprises an electrophoresis gel.

73. (Previously Presented) The apparatus as in claim 70, wherein said surface comprises:

an array with multiple analyte solutions.

74. (Previously Presented) The apparatus as in claim 65, wherein said mass analyzer comprises:

at least one of an inlet orifice attached to an inlet port of a mass spectrometer and a capillary tube attached to said inlet port.

75. (Previously Presented) The apparatus as in claim 65, wherein the transfer means comprises:

an electric field between said analyte solution and at least one of an inlet port and a capillary tube attached to said inlet port.

76. (Previously Presented) The apparatus as in claim 65, wherein the analyte solution comprises:

a liquid solution including at least one of peptides, proteins, nucleic acids, polymers and other compounds of biological industrial significance.

77. (Previously Presented) The apparatus as in claim 65, wherein said light source is configured to irradiate said analyte solution with laser pulses at a wavelength which is absorbed by the analyte solution.

78. (Previously Presented) The apparatus as in claim 65, further comprising a high-performance liquid chromatograph or a CE.

79. (Previously Presented) The apparatus as in claim 65, further comprising:

an enclosure filled with a gas under atmospheric pressure.

80. (Previously Presented) The apparatus as in claim 65, wherein said analyte solution comprises:

a matrix-free analyte solution.